PCT

WORLD INTELLECTUAL PROPERTY ORGANIZATION
International Bureau

INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification 6 : G01N 33/53

A1

(11) International Publication Number: WO 98/05962

(43) International Publication Date: 12 February 1998 (12.02.98)

(21) International Application Number: PCT/US97/13538

(22) International Filing Date: 1 August 1997 (01.08.97)

(30) Priority Data:
60/023,034 2 August 1996 (02.08.96) US

(71) Applicants: PANVERA CORPORATION [US/US]; 545 Science Drive, Madison, WI 53711 (US). BURKE, Thomas, J. [US/US]; 3137 Silverton Trail, Madison, WI 53719 (US).

(72) Inventors: BOLGER, Randall, E.; 922 Red Tail Ridge, Oregon, WI 53575 (US). ERVIN, Kerry, M.; 7417 South Avenue, Middleton, WI 53562 (US). LOWERY, Robert, G.; 301 Wilderness Way, Brooklyn, WI 53521 (US). CHECOVICH, William, J.; 334 E. Sunset Court, Madison, WI 53705 (US).

(74) Agent: JOHNSON, Mark, K.; P.O. Box 510644, New Berlin, WI 53151-0644 (US).

(81) Designated States: European patent (AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE).

Published
With international search report.
Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.

(54) Title: A METHOD FOR QUANTITATING COMPETITIVE BINDING OF MOLECULES TO PROTEINS UTILIZING FLUORESCENCE POLARIZATION

(57) Abstract

The system comprises mixing a fluorescence-emitting compound that binds to the steroid hormone receptors in a solution containing the steroid hormone receptors. Then, measuring the fluorescence polarization of the solution. Subsequently, incubating the solution with at least one molecule that may compete with the compound for interaction with the steroid hormone receptors. Measuring the fluorescence polarization of the solution again. Finally, comparing the fluoresence polarization measurements to quantify any competitive interaction.

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US97/13538

A. CLASSIFICATION OF SUBJECT MATTER
IPC(6) :G0IN 33/53
US CL :436/501
According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 436/501

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

MEDLINE, CA, BIOSIS, USPATFULL, CAPLUS, LIFESCI, WPIDS, CONFSCI, DISSABS, SCISEARCH, JICST-EPLUS

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X,P	OZERS, M. S. Equilibrium Binding and Kinetic Analysis of Estrogen Receptor Interaction with DNA by Fluorescence Anisotropy. UMI Dissertation Services. December 1996, pages 1-210, especially chapters 2, 3, and 4, pages 25-130.	1-19
Y	Hwang, Kwang-Jin et al. Donor-Acceptor Tetrahydrochrysenes, Inherently Fluorescent, High-Affinity Ligands for the Estrogen Receptor: Binding and Fluorescence Characteristics and Fluorometric Assay of Receptor. Biochemistry. 1992. Vol. 31. pages 11536-11545.	1-19
Y	US 5,445,935 A (ROYER, C. A.) 29 August 1995, see entire patent.	1-19

[X] Further documents are listed in the continuation of Box C. [ ] See patent family annex.

*	Special categories of cited documents:	"T"	later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"A"	document defining the general state of the art which is not considered to be of particular relevance	"X"	document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"E"	earlier document published on or after the international filing date	"Y"	document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"L"	document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"&"	document member of the same patent family
"O"	document referring to an oral disclosure, use, exhibition or other means		
"P"	document published prior to the international filing date but later than the priority date claimed		

Date of the actual completion of the international search 22 OCTOBER 1997	Date of mailing of the international search report 01 DEC 1997
Name and mailing address of the ISA/US Commissioner of Patents and Trademarks Box PCT Washington, D.C. 20231 Facsimile No. (703) 305-3230	Authorized officer SUSAN A. LORING Telephone No. (703) 308-0196

Form PCT/ISA/210 (second sheet)(July 1992)*

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US97/13538

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	AUCOUTURIER, P. et al. Fluorescence Polarization Immunoassay of Estradiol. Diag. Immunol. 1983. Vol 1. pages 310-314, see entire reference.	1-19
Y	CHECOVICH, W. J. et al. Fluorescence Polarization- A New Tool for Cell and Molecular Biology. Nature. 18 May 1995. Vol. 375. pages 254-256, see entire reference.	1-19
Y	MIKSICEK, R. J. et al. Studies Using Fluorescent Tetrahydrochrysene Estrogens for in Situ Visualization of the Estrogen Receptor in Living Cells. Molecular Endocrinology. 1995. Vol. 9. pages 592-604, see entire reference.	1-19

01/03/2002, EAST Version: 1.02.0008